

**IN THE ABSTRACT:**

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**ABSTRACT**

The invention concerns an electrical reactor for reforming, in the presence of an oxidant gas, a gas comprising at least one hydrocarbon, and/or at least one organic compound, including carbon and hydrogen atoms as well as at least one heteroatom. Said reactor comprises: an enclosure, a reaction chamber provided with at least two electrodes comprising at least one conductive lining material electrically isolated from the metal wall of the enclosure, at least one supply of gas to be reformed, at least one oxidant gas supply, at least one outlet for the gases from the reforming and one electrical source for powering the electrodes and resulting in generation of an electronic flux in the conductive lining between the electrodes and in heating said lining.